

CLAIMS

What is claimed is:

1. A valve assembly for a mix head assembly of a molding system comprising:  
an input port to a passage;  
a plurality of sequentially activatable valves communicating with said passage to selectively suppress a flow of fluid through said passage;  
and  
an output port from said passage.
2. The assembly as recited in claim 1, further including a controller to sequentially activate said plurality of sequentially activatable valves to meter an initial flow of the fluid.
3. The assembly as recited in claim 2, wherein said controller activates each of said plurality of sequentially activatable valves in response to a predetermined pressure.
4. The assembly as recited in claim 1, wherein each of said plurality of sequentially activatable valves include a spring bias.
5. The assembly as recited in claim 1, wherein each of said plurality of sequentially activatable valves include a spring bias toward an open position.
6. The assembly as recited in claim 1, further including a pneumatic actuator to selectively activate each of said plurality of sequentially activatable valves.

7. The assembly as recited in claim 1, wherein each of said plurality of sequentially activatable valves define a longitudinal axis, each of said plurality of sequentially activatable valves providing an opening transverse to the longitudinal axis and alignable with said passage.

8. The assembly as recited in claim 1, wherein said plurality of sequentially activatable valves includes a first valve, a second valve and a third valve, each of said valves defining a longitudinal axis substantially transverse to said passage.

9. The assembly as recited in claim 8, wherein said first valve is adjacent said input port.

10. The assembly as recited in claim 8, wherein said first valve includes a first aperture, said second valve includes a second aperture, and said third valve includes a third aperture.

11. The assembly as recited in claim 10, wherein said first aperture is sized to be approximately equivalent to said passage, said second aperture sized to be larger than said first aperture and said third aperture sized to be larger than said second aperture.

12. The assembly as recited in claim 10, wherein said plurality of sequentially activatable valves provide an open position wherein said first aperture is aligned with said passage and said second aperture and said third aperture are partially aligned with said passage.

13. The assembly as recited in claim 12, wherein said partially open position of said second aperture and said third aperture provide an opening substantially equivalent to said first aperture, when aligned with said passage.

14. The assembly as recited in claim 10, wherein said plurality of sequentially activatable valves provide an open position wherein said first aperture is aligned with said passage, said second aperture is aligned with said passage and said third aperture is partially aligned with said passage.

15. The assembly as recited in claim 12, wherein said partially open position of said third aperture provides an opening substantially equivalent to said second aperture, when aligned with said passage.

16. The assembly as recited in claim 10, wherein said plurality of sequentially activatable valves provide an open position wherein said first aperture, second aperture and said third aperture are aligned with said passage.

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17. A molding system comprising:

a mix head;

an input port to a passage, said input port communicating with a feed assembly;

a plurality of sequentially activatable valves each defining a longitudinal axis, each of said plurality of sequentially activatable valves include an opening transverse to the longitudinal axis and alignable with said passage to selectively suppress a flow of fluid through said passage;

a bias adjacent each of said plurality of sequentially activatable valves to bias said valve toward an open position;

an actuator to selectively activate each of said plurality of sequentially activatable valves; and

an output port from said passage, said output port communicating with said mix head.

18. The assembly as recited in claim 17, further including a controller to sequentially activate said plurality of sequentially activatable valves to meter an initial flow of the fluid.

19. The assembly as recited in claim 18, wherein said controller activates each of said plurality of sequentially activatable valves in response to a predetermined pressure.

20. The assembly as recited in claim 18, wherein said plurality of sequentially activatable valves includes a first valve, a second valve and a third valve, said first valve adjacent said output port.

21. The assembly as recited in claim 20, wherein said first valve includes a first aperture, said second valve includes a second aperture, and said third valve includes a third aperture.

22. The assembly as recited in claim 21, wherein said first aperture is sized to be approximately equivalent to said passage, said second aperture sized to be larger than said first aperture and said third aperture sized to be larger than said second aperture.

23. A method of suppressing an initial fluid flow to a mix head assembly of a molding system comprising the steps of:

- (1) blocking a fluid material;
- (2) passing the fluid material through a first restriction in response to the material reaching a first predetermined pressure;
- (3) removing the first restriction and passing the fluid material through a second restriction in response to the material reaching a second predetermined pressure, the second restriction less than the first restriction; and
- (4) exiting the fluid material to the mix head.

24. A method as recited in claim 23, further comprises the step of removing the second restriction and passing the fluid material through a third restriction in response to the material reaching a third predetermined pressure, the third restriction less than the second restriction

25. A method as recited in claim 24, further comprises the step of sensing the pressure of the fluid material.

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apparatus w/c increase